## CLAIMS

What is claimed is:

1. A PTH analogue or a truncated PTH analogue or a pharmaceutically acceptable salt thereof that selectively binds to the PTH2 receptor.

2. A PTH analogue or a truncated PTH analogue or a pharmaceutically acceptable salt thereof according to claim 1 where said analogue is a selective PTH2 receptor agonist.

3. A PTH analogue or a truncated PTH analogue or a pharmaceutically acceptable salt thereof according to claim 1 where said analogue is a selective PTH2 receptor antagonist.

4. A method of selectively binding a PTH2 receptor which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 1 or a pharmaceutically-acceptable salt thereof.

5. A method of selectively eliciting an agonist response from the PTH2 receptor which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 2 or a pharmaceutically acceptable salt thereof.

6. A method of selectively eliciting an antagonist response from the PTH2 receptor which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 3 or a pharmaceutically acceptable salt thereof.

7. An analogue according to claim 1 wherein said analogue is of formula (I),

$(R^1R^2)$-$A^1$-$A^2$-$A^3$-$A^4$-$A^5$-$A^6$-$A^7$-$A^8$-$A^9$-$A^{10}$-$A^{11}$-$A^{12}$-$A^{13}$-$A^{14}$-$A^{15}$-$A^{16}$-$A^{17}$-$A^{18}$-$A^{19}$-$A^{20}$-$A^{21}$-$A^{22}$-$A^{23}$-$A^{24}$-$A^{25}$-$A^{26}$-$A^{27}$-$A^{28}$-$A^{29}$-$A^{30}$-$A^{31}$-$A^{32}$-$A^{33}$-$A^{34}$-$A^{35}$-$A^{36}$-$A^{37}$-$A^{38}$-$R^3$ ,

(I)

or a pharmaceutically-acceptable salt thereof wherein

$A^1$ is a hydrophilic or a lipophilic amino acid;

$A^2$ is a lipophilic amino acid;

$A^3$ is a hydrophilic or a lipophilic amino acid;

$A^4$ is a hydrophilic amino acid;

$A^5$ is a hydrophilic or a lipophilic amino acid;

$A^6$ is a hydrophilic amino acid or is deleted;

$A^7$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^8$ is a lipophilic amino acid or is deleted;

$A^9$ is a hydrophilic amino acid or is deleted;

$A^{10}$ is a hydrophilic amino acid or is deleted;

$A^{11}$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^{12}$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^{13}$ is a hydrophilic amino acid;

$A^{14}$ is a hydrophilic amino acid or is deleted;

$A^{15}$ is a lipophilic amino acid or is deleted;

$A^{16}$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^{17}$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^{18}$ is a lipophilic amino acid or is deleted;

$A^{19}$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^{20}$ is a hydrophilic amino acid or is deleted;

$A^{21}$ is a hydrophilic or a lipophilic amino acid or is deleted;

$A^{22}$ is a lipophilic or a hydrophilic amino acid or is deleted;

$A^{23}$ is a hydrophilic or a lipophilic amino acid;

$A^{24}$ is a hydrophilic or a lipophilic amino acid;

$A^{25}$ is a hydrophilic amino acid;

$A^{26}$ is a hydrophilic amino acid;

$A^{27}$ is a lipophilic or a hydrophilic amino acid;

$A^{28}$ is a lipophilic amino acid;

$A^{29}$ is a lipophilic or a hydrophilic amino acid;

$A^{30}$ is a hydrophilic or a lipophilic amino acid;

$A^{31}$ is a lipophilic or a hydrophilic amino acid or is deleted;

$A^{32}$ is a hydrophilic amino acid or is deleted;

$A^{33}$ is a hydrophilic amino acid or is deleted;

$A^{34}$ is a lipophilic amino acid or is deleted;

$A^{35}$ is a lipophilic amino acid or is deleted;

$A^{36}$ is a lipophilic or a hydrophilic amino acid or is deleted;

$A^{37}$ is a lipophilic amino acid or is deleted;

$A^{38}$ is a lipophilic or a hydrophilic amino acid or is deleted;

$R^1$ and $R^2$ are each independently selected from the group consisting of H, $(C_{1-30})$alkyl, $(C_{2-30})$alkenyl, phenyl-$(C_{1-30})$alkyl, naphthyl$(C_{1-30})$alkyl, hydroxy$(C_{1-30})$alkyl, hydroxy$(C_{2-30})$alkenyl, hydroxy-phenyl$(C_{1-30})$alkyl or hydroxy-naphthyl$(C_{1-30})$alkyl;

or one of $R^1$ or $R^2$ is $COE^1$ where $E^1$ is $(C_{1-30})$alkyl, $(C_{2-30})$alkenyl, phenyl$(C_{1-30})$alkyl, naphthyl$(C_{1-30})$alkyl, hydroxy$(C_{1-30})$alkyl, hydroxy$(C_{2-30})$alkenyl, hydroxy-phenyl$(C_{1-30})$alkyl or hydroxy-naphthyl$(C_{1-30})$alkyl; and

$R^3$ is OH, $NH_2$, $(C_{1-30})$alkoxy or NH-Y-$CH_2$-Z, where Y is a $(C_{1-30})$ hydrocarbon moiety and Z is $CO_2H$ or $CONH_2$;

provided that the ~~compound~~ analogue is not PTH(1-34)$R^3$, PTH(1-35)$R^3$, PTH(1-36)$R^3$, PTH(1-37)$R^3$, or PTH(1-38)$R^3$.

8. A method of selectively binding a PTH2 receptor which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 7 or a pharmaceutically-acceptable salt thereof.

9. An analogue according to claim 1 of formula (II),

$(R^1R^2)$-$A^1$-$A^2$-$A^3$-$A^4$-$A^5$-$A^6$-$A^7$-$A^8$-$A^9$-$A^{10}$-$A^{11}$-$A^{12}$-$A^{13}$-$A^{14}$-$A^{15}$-$A^{16}$-$A^{17}$-$A^{18}$-$A^{19}$-$A^{20}$-$A^{21}$-$A^{22}$-$A^{23}$-$A^{24}$-$A^{25}$-$A^{26}$-$A^{27}$-$A^{28}$-$A^{29}$-$A^{30}$-$A^{31}$-$A^{32}$-$A^{33}$-$A^{34}$-$A^{35}$-$A^{36}$-$A^{37}$-$A^{38}$-$R^3$,

(II)

or a pharmaceutically-acceptable salt thereof wherein

$A^1$ is Ser, Ala, Dap, Thr, Aib or is deleted;

$A^2$ is Val, Leu, Ile, Phe, Nle, β-Nal, Aib, p-X-Phe, Acc, Cha, Met or is deleted;

$A^3$ is Ser, Thr, Aib or is deleted;

$A^4$ is Glu, Asp or is deleted;

$A^5$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe or is deleted;

$A^6$ is Gln, a hydrophilic amino acid or is deleted;

$A^7$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, a lipophilic amino acid, or is deleted;

$A^8$ is Met, Nva, Leu, Val, Ile, Cha, Acc, Nle, p-X-Phe, Phe, β-Nal, Bpa, a lipophilic amino acid or is deleted;

$A^9$ is His, a hydrophilic amino acid or is deleted;

$A^{10}$ is Asn, a hydrophilic amino acid or is deleted;

$A^{11}$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, a hydrophilic amino acid or is deleted;

$A^{12}$ is Gly, Acc, Aib, or is deleted;

$A^{13}$ is Lys, Arg or HN-CH($(CH_2)_n$NH-$R^4$)-C(O);

$A^{14}$ is His or is deleted;

$A^{15}$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe or is deleted;

$A^{16}$ is Ser, Asn, Ala, Aib or is deleted;

$A^{17}$ is Ser, Thr, Aib or is deleted;

$A^{18}$ is Met, Nva, Leu, Val, Ile, Nle, p-X-Phe, Phe, β-Nal, Acc, Cha, Aib or is deleted;

$A^{19}$ is Glu, Aib or is deleted;

$A^{20}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{21}$ is Val, Leu, Ile, Phe, Nle, β-Nal, Aib, p-X-Phe, Acc, Cha, Met or is deleted;

$A^{22}$ is Acc, Aib, Glu or is deleted;

$A^{23}$ is Trp, Acc, Phe, p-X-Phe, Aib, β-Nal or Cha;

$A^{24}$ is Leu, Acc, Ile, Val, Phe, β-Nal, Nle, Aib, p-X-Phe or Cha;

$A^{25}$ is Arg, Lys or HN-CH($(CH_2)_n$NH-$R^4$)-C(O);

$A^{26}$ is Arg, Lys or HN-CH($(CH_2)_n$NH-$R^4$)-C(O);

$A^{27}$ is Lys, Aib, Leu, hArg, Gln, Acc, Arg, Cha, Nle, Ile, Val, Phe, β-Nal, or p-X-Phe, where the Lys is optionally substituted on the ε-amino group by an acyl group;

$A^{28}$ is Leu, Acc, Cha, Ile, Val, Phe, Nle, β-Nal, Aib or p-X-Phe;

$A^{29}$ is Gln, Acc or Aib;

$A^{30}$ is Asp, Lys, Arg or is deleted;

$A^{31}$ is Val, Leu, Nle, Acc, Cha, Phe, Ile, β-Nal, Aib, p-X-Phe or is deleted;

$A^{32}$ is His or is deleted;

$A^{33}$ is Asn or is deleted;

$A^{34}$ is Phe, Tyr, Amp, Aib, β-Nal, Cha, Nle, Leu, Ile, Acc, p-X-Phe or is deleted;

$A^{35}$ is Val, Leu, Nle, Acc, Cha, Phe, Ile, β-Nal, Aib, p-X-Phe or is deleted;

$A^{36}$ is Ala, Val, Aib, Acc, Nva, Abu or is deleted;

$A^{37}$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, a lipophilic amino acid, or is deleted;

$A^{38}$ is Gly, Acc, Aib, or is deleted;

where X for each occurrence is independently selected from the group consisting of OH, a halo and $CH_3$;

$R^1$ and $R^2$ are each independently selected from the group consisting of H, ($C_{1-30}$)alkyl, ($C_{2-30}$)alkenyl, phenyl-($C_{1-30}$)alkyl, naphthyl($C_{1-30}$)alkyl, hydroxy($C_{1-30}$)alkyl, hydroxy($C_{2-30}$)alkenyl, hydroxy-phenyl($C_{1-30}$)alkyl or hydroxy-naphthyl($C_{1-30}$)alkyl;

or one of $R^1$ or $R^2$ is $COE^1$ where $E^1$ is $(C_{1-30})$alkyl, $(C_{2-30})$alkenyl, phenyl$(C_{1-30})$alkyl, naphthyl$(C_{1-30})$alkyl, hydroxy$(C_{1-30})$alkyl, hydroxy$(C_{2-30})$alkenyl, hydroxy-phenyl$(C_{1-30})$alkyl or hydroxy-naphthyl$(C_{1-30})$alkyl;

$R^3$ is OH, $NH_2$, $(C_{1-30})$alkoxy or NH-Y-$CH_2$-Z, where Y is a $(C_{1-30})$ hydrocarbon moiety and Z is $CO_2H$ or $CONH_2$;

n for each occurrence is independently an integer from 1 to 5; and

$R^4$ for each occurrence is independently $(C_1$-$C_{30})$alkyl, $(C_1$-$C_{30})$acyl or -C((NH)($NH_2$));

provided that the ~~compound~~ analogue is not PTH(1-34)$R^3$, PTH(1-35)$R^3$, PTH(1-36)$R^3$, PTH(1-37)$R^3$, or PTH(1-38)$R^3$.

10. A compound of the formula (III),

$(R^1R^2)$-$A^1$-$A^2$-$A^3$-$A^4$-$A^5$-$A^6$-$A^7$-$A^8$-$A^9$-$A^{10}$-$A^{11}$-$A^{12}$-$A^{13}$-$A^{14}$-$A^{15}$-$A^{16}$-$A^{17}$-$A^{18}$-$A^{19}$-$A^{20}$-$A^{21}$-$A^{22}$-$A^{23}$-$A^{24}$-$A^{25}$-$A^{26}$-$A^{27}$-$A^{28}$-$A^{29}$-$A^{30}$-$A^{31}$-$A^{32}$-$A^{33}$-$A^{34}$-$A^{35}$-$A^{36}$-$A^{37}$-$A^{38}$-$R^3$,

(III)

or a pharmaceutically-acceptable salt thereof wherein

$A^1$ is Ser, Ala, Dap, Thr, Aib or is deleted;

$A^2$ is Val, Leu, Ile, Phe, Nle, β-Nal, Aib, p-X-Phe, Acc, Cha, Met or is deleted;

$A^3$ is Ser, Thr, Aib or is deleted;

$A^4$ is Glu, Asp or is deleted;

$A^5$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe or is deleted;

$A^6$ is Gln, a hydrophilic amino acid or is deleted;

$A^7$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, a lipophilic amino acid, or is deleted;

$A^8$ is Met, Nva, Leu, Val, Ile, Cha, Acc, Nle, p-X-Phe, Phe, β-Nal, Bpa, a lipophilic amino acid or is deleted;

$A^9$ is His, a hydrophilic amino acid or is deleted;

$A^{10}$ is Asn, a hydrophilic amino acid or is deleted;

$A^{11}$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, a hydrophilic amino acid or is deleted;

$A^{12}$ is Gly, Acc, Aib, or is deleted;

$A^{13}$ is Lys, Arg, or deleted HN-CH($(CH_2)_n$NH-$R^4$)-C(O);

$A^{14}$ is His or is deleted;

$A^{15}$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe or is deleted;

$A^{16}$ is Ser, Asn, Ala, Aib or is deleted;

$A^{17}$ is Ser, Thr, Aib or is deleted;

$A^{18}$ is Met, Nva, Leu, Val, Ile, Nle, p-X-Phe, Phe, β-Nal, Acc, Cha, Aib or is deleted;

$A^{19}$ is Glu, Aib or is deleted;

$A^{20}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{21}$ is Val, Leu, Ile, Phe, Nle, β-Nal, Aib, p-X-Phe, Acc, Cha, Met or is deleted;

$A^{22}$ is Acc, Aib, Glu or is deleted;

$A^{23}$ is Trp, Acc, Phe, p-X-Phe, Aib, β-Nal or Cha;

$A^{24}$ is Leu, Acc, Ile, Val, Phe, β-Nal, Nle, Aib, p-X-Phe or Cha;

$A^{25}$ is Arg, Lys or HN-CH($(CH_2)_n$NH-$R^4$)-C(O);

$A^{26}$ is Arg, Lys or HN-CH($(CH_2)_n$NH-$R^4$)-C(O);

$A^{27}$ is Lys, Aib, Leu, hArg, Gln, Acc, Arg, Cha, Nle, Ile, Val, Phe, β-Nal, or p-X-Phe, where the Lys is optionally substituted on the ε-amino group by an acyl group;

$A^{28}$ is Leu, Acc, Cha, Ile, Val, Phe, Nle, β-Nal, Aib or p-X-Phe;

$A^{29}$ is Gln, Acc or Aib;

$A^{30}$ is Asp, Lys, Arg or is deleted;

$A^{31}$ is Val, Leu, Nle, Acc, Cha, Phe, Ile, β-Nal, Aib, p-X-Phe or is deleted;

$A^{32}$ is His or is deleted;

$A^{33}$ is Asn or is deleted;

$A^{34}$ is Phe, Tyr, Amp, Aib, β-Nal, Cha, Nle, Leu, Ile, Acc, p-X-Phe or is deleted;

$A^{35}$ is Val, Leu, Nle, Acc, Cha, Phe, Ile, β-Nal, Aib, p-X-Phe or is deleted;

$A^{36}$ is Ala, Val, Aib, Acc, Nva, Abu or is deleted;

$A^{37}$ is Leu, Val, Nle, Ile, Cha, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, a lipophilic amino acid, or is deleted;

$A^{38}$ is Gly, Acc, Aib, or is deleted;

where X for each occurrence is independently selected from the group consisting of OH, a halo and $CH_3$;

$R^1$ and $R^2$ are each independently selected from the group consisting of H, ($C_{1-30}$)alkyl, ($C_{2-30}$)alkenyl, phenyl-($C_{1-30}$)alkyl, naphthyl($C_{1-30}$)alkyl, hydroxy($C_{1-30}$)alkyl, hydroxy($C_{2-30}$)alkenyl, hydroxy-phenyl($C_{1-30}$)alkyl and hydroxy-naphthyl($C_{1-30}$)alkyl;

or one of $R^1$ or $R^2$ is $COE^1$ where $E^1$ is $(C_{1-30})$alkyl, $(C_{2-30})$alkenyl, phenyl$(C_{1-30})$alkyl, naphthyl$(C_{1-30})$alkyl, hydroxy$(C_{1-30})$alkyl, hydroxy$(C_{2-30})$alkenyl, hydroxy-phenyl$(C_{1-30})$alkyl or hydroxy-naphthyl$(C_{1-30})$alkyl;

$R^3$ is OH, $NH_2$, $(C_{1-30})$alkoxy or NH-Y-$CH_2$-Z, where Y is a $(C_{1-30})$ hydrocarbon moiety and Z is $CO_2H$ or $CONH_2$;

n for each occurrence is independently an integer from 1 to 5; and

$R^4$ for each occurrence is independently $(C_1$-$C_{30})$alkyl, $(C_1$-$C_{30})$acyl or -C((NH)($NH_2$));

provided that when $A^8$ is not a lipophilic D-amino acid or is not deleted then at least one of $A^6$, $A^7$, $A^9$, $A^{10}$, $A^{11}$ and $A^{12}$ is a D-amino acid or at least one of $A^6$, $A^7$, $A^9$, $A^{10}$, $A^{11}$, $A^{12}$, $A^{13}$, $A^{14}$, $A^{15}$, $A^{16}$, $A^{17}$, $A^{18}$, $A^{19}$, $A^{20}$, $A^{21}$ and $A^{22}$ is deleted;

and further provided that when the compound contains a D-amino acid then $A^{36}$ is deleted.

11. A compound according to claim 10 wherein said compound is

[D-Nle$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Nle$^8$]hPTH(1-34)$NH_2$,

[D-Leu$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Cha$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Phe$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Nal$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Abu$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Met$^8$]hPTH(1-34)$NH_2$,

[Cha$^{7,11}$, D-Met$^8$]hPTH(1-34)$NH_2$,

[D-Ile$^8$]hPTH(1-34)$NH_2$,

[Cha$^{7,11}$, D-Ile$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Ile$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Leu$^8$]hPTH(1-34)$NH_2$,

[Cha$^{7,11}$, D-Leu$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Val$^8$]hPTH(1-34)$NH_2$,

[Cha$^{7,11}$, D-Val$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Val$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Cha$^8$]hPTH(1-34)$NH_2$,

[Cha$^{7,11}$, D-Cha$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Ala$^8$]hPTH(1-34)$NH_2$,

[Cha$^{7,11}$, D-Ala$^8$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[D-Ala$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[D-Phe$^{8}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, D-Phe$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[D-Nal$^{8}$]hPTH(1-34)$NH_2$,
[D-Trp$^{8}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, D-Trp$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[D-Trp$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[D-Abu$^{8}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, D-Abu$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[D-Nle$^{8}$, Nle$^{18}$]hPTH(1-34)$NH_2$,
[des-Met$^{8}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, des-Met$^{8}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, des-Met$^{8}$, des-Met$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Met$^{8}$, des-Met$^{18}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, des-Met$^{8}$, des-Met$^{18}$]hPTH(1-34)$NH_2$,
[des-Met$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Met$^{18}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, des-Met$^{18}$]hPTH(1-34)$NH_2$,
[Cha$^{7,11}$, des-Met$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[D-Nle$^{8}$, des-Met$^{18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Glu, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Leu$^{7}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-His$^{9}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Asn$^{10}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Leu$^{11}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Gly$^{12}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Lys$^{13}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-His$^{14}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Leu$^{15}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Asn$^{16}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Ser$^{17}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Glu$^{19}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,
[des-Arg$^{20}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)$NH_2$,

[des-Val$^{21}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[des-Glu$^{22}$, Nle $^{8,18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[des-Gln$^{6}$, Cha$^{7,11}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[des-Leu$^{7}$, Nle$^{8,18}$, Cha$^{11}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[Cha$^{7,11}$, des-His$^{9}$, Nle$^{8,18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[des-Gln$^{6}$, Cha$^{7,11}$, D-Nle$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[des-Leu$^{7}$, D-Nle$^{8}$, Cha$^{11}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[Cha$^{7,11}$, D-Nle$^{8}$, des-His$^{9}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[Cha$^{7,11}$, D-Nle$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-31)NH$_2$,

[Cha$^{7,11}$, des-Met$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[Cha$^{7,11}$, D-Nle$^{8}$, des-Met$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[Cha$^{7,11}$, des-Met$^{8}$, des-His$^{9}$, des-Asn$^{10}$]hPTH(1-34)NH$_2$,

[Cha$^{7,11}$, des-Ser$^{17}$, des-Met$^{18}$, des-Glu$^{19}$]hPTH(1-34)NH$_2$,

[D-Met$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[D-Met$^{8}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[D-Bpa$^{8}$, Tyr$^{34}$]hPTH(1-34)NH$_2$,

[D-Nle$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(7-34)NH$_2$,

[D-Nle$^{8}$, Nle$^{18}$]hPTH(7-34)NH$_2$ or

[D-Met$^{8}$]hPTH(7-34)NH$_2$.

12. A compound according to claim 11 wherein said compound is

[Cha$^{7,11}$, des-Met$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH-(1-34)NH$_2$,

[Cha$^{7,11}$, D-Nle$^{8}$, des-Met$^{18}$, Tyr$^{34}$]hPTH-(1-34)NH$_2$,

[Cha$^{7,11}$, D-Nle$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH-(1-34)NH$_2$,

[D-Nle$^{8}$, Nle$^{18}$, Tyr$^{34}$]hPTH(1-34)NH$_2$ or [D-Bpa$^{8}$, Tyr$^{34}$]hPTH(1-34)NH$_2$.

13. A PTHrP analogue of formula (IV) that selectively binds to the PTH2 receptor,

(R$^1$R$^2$)-A$^1$-A$^2$-A$^3$-A$^4$-A$^5$-A$^6$-A$^7$-A$^8$-A$^9$-A$^{10}$-A$^{11}$-A$^{12}$-A$^{13}$-A$^{14}$-A$^{15}$-A$^{16}$-A$^{17}$-A$^{18}$-A$^{19}$-A$^{20}$-A$^{21}$-A$^{22}$-A$^{23}$-A$^{24}$-A$^{25}$-A$^{26}$-A$^{27}$-A$^{28}$-A$^{29}$-A$^{30}$-A$^{31}$-A$^{32}$-A$^{33}$-A$^{34}$-A$^{35}$-A$^{36}$-A$^{37}$-A$^{38}$-R$^3$,

(IV)

or a pharmaceutically acceptable salt thereof, wherein

A$^1$ is Ala, Ser, Dap, Thr, Aib or is deleted;

A$^2$ is Val or is deleted;

A$^3$ is Ser, Aib, Thr or is deleted;

$A^4$ is Glu, Asp or is deleted;

$A^5$ is His, Ile, Acc, Val, Nle, Phe, Leu, p-X-Phe, β-Nal, Aib, Cha or is deleted;

$A^6$ is Gln, a hydrophilic amino acid or is deleted;

$A^7$ is Leu, Val, Cha, Nle, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, Aib, a lipophilic amino acid or is deleted;

$A^8$ is Leu, Met, Acc, Cha, Aib, Nle, Phe, Ile, Val, β-Nal, p-X-Phe, a lipophilic amino acid or is deleted;

$A^9$ is His, a hydrophilic amino acid or is deleted;

$A^{10}$ is Asp, Asn, a hydrophilic amino acid or is deleted;

$A^{11}$ is Lys, Arg, Leu, Cha, Aib, p-X-Phe, Ile, Val, Nle, Acc, Phe, β-Nal, HN-CH($(CH_2)_n$NH-$R^4$)-C(O), a lipophilic D-amino acid, a hydrophilic amino acid or is deleted;

$A^{12}$ is Gly, Acc, Aib or is deleted;

$A^{13}$ is Lys, Arg, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{14}$ is Ser, His or is deleted;

$A^{15}$ is Ile, Acc, Cha, Leu, Phe, Nle, β-Nal, Trp, p-X-Phe, Val, Aib or is deleted;

$A^{16}$ is Gln, Aib or is deleted;

$A^{17}$ is Asp, Aib or is deleted;

$A^{18}$ is Leu, Aib, Acc, Cha, Phe, Ile, Nle, β-Nal, Val, p-X-Phe or is deleted;

$A^{19}$ is Arg, Lys, Aib, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{20}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{21}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{22}$ is Phe, Glu, Aib, Acc, p-X-Phe, β-Nal, Val, Leu, Ile, Nle or Cha;

$A^{23}$ is Phe, Leu, Lys, Acc, Cha, β-Nal, Aib, Nle, Ile, p-X-Phe, Val or Trp;

$A^{24}$ is Leu, Lys, Acc, Nle, Ile, Val, Phe, β-Nal, Aib, p-X-Phe, Arg or Cha;

$A^{25}$ is His, Lys, Aib, Acc, Arg or Glu;

$A^{26}$ is His, Aib, Acc, Arg or Lys;

$A^{27}$ is Leu, Lys, Acc, Arg, Ile, Val, Phe, Aib, Nle, β-Nal, p-X-Phe or Cha;

$A^{28}$ is Ile, Leu, Lys, Acc, Cha, Val, Phe, p-X-Phe, Nle, β-Nal, Aib or is deleted;

$A^{29}$ is Ala, Glu, Acc, Aib or is deleted;

$A^{30}$ is Glu, Leu, Nle, Cha, Aib, Acc, Lys, Arg or is deleted;

$A^{31}$ is Ile, Leu, Cha, Lys, Acc, Phe, Val, Nle, β-Nal, Arg or is deleted;

$A^{32}$ is His or is deleted;

$A^{33}$ is Thr, Ser or is deleted;

$A^{34}$ is Ala, Phe, Tyr, Cha, Val, Ile, Leu, Nle, β-Nal, Aib, Acc or is deleted;

$A^{35}$ is Glu, Asp or is deleted;

$A^{36}$ is Ile, Acc, Cha, Leu, Phe, Nle, β-Nal, Trp, p-X-Phe, Val, Aib or is deleted;

$A^{37}$ is Arg, Lys, HN-CH($(CH_2)_nNH-R^4$)-C(O) or is deleted;

$A^{38}$ is Ala, Phe, Tyr, Cha, Val, Ile, Leu, Nle, β-Nal, Aib, Acc or is deleted;

$R^1$ and $R^2$ are each independently selected from the group consisting of H, ($C_{1-30}$)alkyl, ($C_{2-30}$)alkenyl, phenyl-($C_{1-30}$)alkyl, naphthyl($C_{1-30}$)alkyl, hydroxy($C_{1-30}$)alkyl, hydroxy($C_{2-30}$)alkenyl, hydroxy-phenyl($C_{1-30}$)alkyl or hydroxy-naphthyl($C_{1-30}$)alkyl;

or one of $R^1$ or $R^2$ is $COE^1$ where $E^1$ is ($C_{1-30}$)alkyl, ($C_{2-30}$)alkenyl, phenyl($C_{1-30}$)alkyl, naphthyl($C_{1-30}$)alkyl, hydroxy($C_{1-30}$)alkyl, hydroxy($C_{2-30}$)alkenyl, hydroxy-phenyl($C_{1-30}$)alkyl and hydroxy-naphthyl($C_{1-30}$)alkyl;

$R^3$ is OH, $NH_2$, ($C_{1-30}$)alkoxy or NH-Y-$CH_2$-Z, where Y is a ($C_{1-30}$) hydrocarbon moiety and Z is $CO_2H$ or $CONH_2$;

n for each occurrence is independently an integer from 1 to 5; and

$R^4$ for each occurrence is independently ($C_1$-$C_{30}$)alkyl, ($C_1$-$C_{30}$)acyl or -C((NH)($NH_2$));

provided that the analogue is not PTHrP(1-34)$R^3$, PTHrP(1-35)$R^3$, PTHrP(1-36)$R^3$, PTHrP(1-37)$R^3$ or PTHrP(1-38)$R^3$,

and further provided that the compound is not [$Ile^5$, $Trp^{23}$]PTHrP(1-36) or [$Trp^{23}$]PTHrP(1-36).

14. A compound of formula (V),

$(R^1R^2)$-$A^1$-$A^2$-$A^3$-$A^4$-$A^5$-$A^6$-$A^7$-$A^8$-$A^9$-$A^{10}$-$A^{11}$-$A^{12}$-$A^{13}$-$A^{14}$-$A^{15}$-$A^{16}$-$A^{17}$-$A^{18}$-$A^{19}$-$A^{20}$-$A^{21}$-$A^{22}$-$A^{23}$-$A^{24}$-$A^{25}$-$A^{26}$-$A^{27}$-$A^{28}$-$A^{29}$-$A^{30}$-$A^{31}$-$A^{32}$-$A^{33}$-$A^{34}$-$A^{35}$-$A^{36}$-$A^{37}$-$A^{38}$-$R^3$,

(V)

or a pharmaceutically acceptable salt thereof, wherein

$A^1$ is Ala, Ser, Dap, Thr, Aib or is deleted;

$A^2$ is Val or is deleted;

$A^3$ is Ser, Aib, Thr or is deleted;

$A^4$ is Glu, Asp or is deleted;

$A^5$ is His, Ile, Acc, Val, Nle, Phe, Leu, p-X-Phe, β-Nal, Aib, Cha or is deleted;

$A^6$ is Gln, a hydrophilic amino acid or is deleted;

$A^7$ is Leu, Val, Cha, Nle, β-Nal, Trp, Pal, Acc, Phe, p-X-Phe, Aib, a lipophilic amino acid or is deleted;

$A^8$ is Leu, Met, Acc, Cha, Aib, Nle, Phe, Ile, Val, β-Nal, p-X-Phe, a lipophilic amino acid or is deleted;

$A^9$ is His, a hydrophilic amino acid or is deleted;

$A^{10}$ is Asp, Asn, a hydrophilic amino acid or is deleted;

$A^{11}$ is Lys, Arg, Leu, Cha, Aib, p-X-Phe, Ile, Val, Nle, Acc, Phe, β-Nal, HN-CH($(CH_2)_n$NH-$R^4$)-C(O), a lipophilic D-amino acid, a hydrophilic amino acid or is deleted;

$A^{12}$ is Gly, Acc, Aib or is deleted;

$A^{13}$ is Lys, Arg, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{14}$ is Ser, His or is deleted;

$A^{15}$ is Ile, Acc, Cha, Leu, Phe, Nle, β-Nal, Trp, p-X-Phe, Val, Aib or is deleted;

$A^{16}$ is Gln, Aib or is deleted;

$A^{17}$ is Asp, Aib or is deleted;

$A^{18}$ is Leu, Aib, Acc, Cha, Phe, Ile, Nle, β-Nal, Val, p-X-Phe or is deleted;

$A^{19}$ is Arg, Lys, Aib, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{20}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{21}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{22}$ is Phe, Glu, Aib, Acc, p-X-Phe, β-Nal, Val, Leu, Ile, Nle or Cha;

$A^{23}$ is Phe, Leu, Lys, Acc, Cha, β-Nal, Aib, Nle, Ile, p-X-Phe, Val or Trp;

$A^{24}$ is Leu, Lys, Acc, Nle, Ile, Val, Phe, β-Nal, Aib, p-X-Phe, Arg or Cha;

$A^{25}$ is His, Lys, Aib, Acc, Arg or Glu;

$A^{26}$ is His, Aib, Acc, Arg or Lys;

$A^{27}$ is Leu, Lys, Acc, Arg, Ile, Val, Phe, Aib, Nle, β-Nal, p-X-Phe or Cha;

$A^{28}$ is Ile, Leu, Lys, Acc, Cha, Val, Phe, p-X-Phe, Nle, β-Nal, Aib or is deleted;

$A^{29}$ is Ala, Glu, Acc, Aib or is deleted;

$A^{30}$ is Glu, Leu, Nle, Cha, Aib, Acc, Lys, Arg or is deleted;

$A^{31}$ is Ile, Leu, Cha, Lys, Acc, Phe, Val, Nle, β-Nal, Arg or is deleted;

$A^{32}$ is His or is deleted;

$A^{33}$ is Thr, Ser or is deleted;

$A^{34}$ is Ala, Phe, Tyr, Cha, Val, Ile, Leu, Nle, β-Nal, Aib, Acc or is deleted;

$A^{35}$ is Glu, Asp or is deleted;

$A^{36}$ is Ile, Acc, Cha, Leu, Phe, Nle, β-Nal, Trp, p-X-Phe, Val, Aib or is deleted;

$A^{37}$ is Arg, Lys, HN-CH($(CH_2)_n$NH-$R^4$)-C(O) or is deleted;

$A^{38}$ is Ala, Phe, Tyr, Cha, Val, Ile, Leu, Nle, β-Nal, Aib, Acc or is deleted;

$R^1$ and $R^2$ are each independently selected from the group consisting of H, $(C_{1-30})$alkyl, $(C_{2-30})$alkenyl, phenyl-$(C_{1-30})$alkyl, naphthyl$(C_{1-30})$alkyl, hydroxy$(C_{1-30})$alkyl, hydroxy$(C_{2-30})$alkenyl, hydroxy-phenyl$(C_{1-30})$alkyl or hydroxy-naphthyl$(C_{1-30})$alkyl;

or one of $R^1$ or $R^2$ is $COE^1$ where $E^1$ is $(C_{1-30})$alkyl, $(C_{2-30})$alkenyl, phenyl$(C_{1-30})$alkyl, naphthyl$(C_{1-30})$alkyl, hydroxy$(C_{1-30})$alkyl, hydroxy$(C_{2-30})$alkenyl, hydroxy-phenyl$(C_{1-30})$alkyl or hydroxy-naphthyl$(C_{1-30})$alkyl;

$R^3$ is OH, $NH_2$, $(C_{1-30})$alkoxy or NH-Y-$CH_2$-Z, where Y is a $(C_{1-30})$ hydrocarbon moiety and Z is $CO_2H$ or $CONH_2$;

n for each occurrence is independently an integer from 1 to 5; and

$R^4$ for each occurrence is independently $(C_1$-$C_{30})$alkyl, $(C_1$-$C_{30})$acyl or -C((NH)($NH_2$));

provided that when $A^8$ is not a lipophilic D-amino acid or is not deleted then at least one of $A^6$, $A^7$, $A^9$, $A^{10}$, $A^{11}$ and $A^{12}$ is a D-amino acid or at least one of $A^6$, $A^7$, $A^9$, $A^{10}$, $A^{11}$, $A^{12}$, $A^{13}$, $A^{14}$, $A^{15}$, $A^{16}$, $A^{17}$, $A^{18}$, $A^{19}$, $A^{20}$, $A^{21}$ and $A^{22}$ is deleted.

15. A compound according to claim 14 wherein said compound is

[$Ile^5$, D-$Leu^8$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, D-$Leu^8$, $Trp^{23}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, des-$Leu^8$, $Trp^{23}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, des-$Leu^8$]hPTHrP(1-34)$NH_2$,

[des-$Leu^8$, $Trp^{23}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, des-$Leu^{18}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, des-$Leu^{18}$, $Trp^{23}$]hPTHrP(1-34)$NH_2$,

[des-$Leu^{18}$, $Trp^{23}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, D-$Leu^8$, $Glu^{22,25}$, $Leu^{23,28,31}$, $Lys^{26,30}$, $Aib^{29}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, D-$Leu^8$, $Glu^{22,25}$, $Trp^{23}$, $Lys^{26,30}$, $Leu^{28,31}$, $Aib^{29}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, D-$Leu^8$, $Glu^{22,25,29}$, $Leu^{23,28,31}$, $Lys^{26,30}$]hPTHrP(1-34)$NH_2$,

[$Ile^5$, D-$Leu^8$, $Glu^{22,25,29}$, $Trp^{23}$, $Lys^{26,30}$, $Leu^{28,31}$]hPTHrP(1-34)$NH_2$ or

[D-$Leu^8$, $Trp^{23}$]hPTHrP(7-34)$NH_2$.

16. A method of selectively binding the PTH2 receptor which comprises administering to a patient in need thereof an analogue according to claim 9 or a pharmaceutically acceptable salt thereof.

17. A method of selectively binding the PTH2 receptor which comprises administering to a patient in need thereof a compound according to claim 10 or a pharmaceutically acceptable salt thereof.

18. A method of selectively binding the PTH2 receptor which comprises administering to a patient in need thereof a compound according to claim 11 or a pharmaceutically acceptable salt thereof.

19. A method of selectively binding a PTH2 receptor which comprises administering to a patient in need thereof a compound according to claim 12 or a pharmaceutically acceptable salt thereof.

20. A method of selectively binding a PTH2 receptor which comprises administering to a patient in need thereof an analogue according to claim 13 or a pharmaceutically acceptable salt thereof.

21. A method of selectively binding a PTH2 receptor which comprises administering to a patient in need thereof a compound according to claim 14 or a pharmaceutically acceptable salt thereof.

22. A method of selectively binding a PTH2 receptor which comprises administering to a patient in need thereof a compound according to claim 15 or a pharmaceutically acceptable salt thereof.

23. A pharmaceutical composition comprising an analogue according to claim 9 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

24. A pharmaceutical composition comprising a compound according to claim 10 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

25. A pharmaceutical composition comprising a compound according to claim 11 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

26. A pharmaceutical composition comprising a compound according to claim 12 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

27. A pharmaceutical composition comprising an analogue according to claim 13 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

28. A pharmaceutical composition comprising a compound according to claim 14 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

29. A pharmaceutical composition comprising a compound according to claim 15 or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier.

30. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 7, sufficient to inhibit the activation of the PTH2 receptor of said patient.

31. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 9, sufficient to inhibit the activation of the PTH2 receptor of said patient.

32. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of a compound according to claim 10, sufficient to inhibit the activation of the PTH2 receptor of said patient.

33. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of a compound according to claim 11, sufficient to inhibit the activation of the PTH2 receptor of said patient.

34. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of a compound according to claim 12, sufficient to inhibit the activation of the PTH2 receptor of said patient.

35. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of an analogue according to claim 13, sufficient to inhibit the activation of the PTH2 receptor of said patient.

36. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of a compound according to claim 14, sufficient to inhibit the activation of the PTH2 receptor of said patient.

37. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of a compound according to claim 15, sufficient to inhibit the activation of the PTH2 receptor of said patient.

38. A method according to claim 30 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

39. A method according to claim 31 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

40. A method according to claim 32 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

41. A method according to claim 33 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

42. A method according to claim 34 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

43. A method according to claim 35 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

44. A method according to claim 36 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

45. A method according to claim 37 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.

46. A method of treating a medical disorder that results from altered or excessive action of the PTH2 receptor, which comprises administering to a patient in need thereof an effective amount of a PTH analogue or a truncated PTH analogue or a pharmaceutically acceptable salt thereof according to claim 1, sufficient to inhibit the activation of the PTH2 receptor of said patient.

47. A method according to claim 46 wherein said medical disorder is abnormal CNS functions, abnormal pancreatic functions, divergence from normal mineral metabolism and homeostasis, male infertility, abnormal blood pressure or a hypothalmic disease.